

WHAT IS CLAIMED IS:

- 1 1. An image-capture circuit, comprising:
 - 2 a digitizer operable to receive a serial analog color signal having a
 - 3 predetermined sequence of color components, the digitizer having:
 - 4 a plurality of channels each operable to process a respective color
 - 5 component; and
 - 6 an analog-to-digital converter operable to sequentially receive and
 - 7 digitize the color components; and
 - 8 a controller coupled to the digitizer and operable to couple each of the
 - 9 channels to the analog to digital converter in the predetermined sequence.
- 1 2. The image-capture circuit of claim 1, wherein the digitizer further
- 2 includes a multiplexer disposed between the channels and the analog-to-digital
- 3 converter, and the controller is further operable to cause the multiplexer to couple
- 4 the channels to the analog-to-digital converter in the predetermined sequence.
- 1 3. The image-capture circuit of claim 1, wherein each input channel
- 2 is operable to modify the respective color component that it processes.
- 1 4. The image-capture circuit of claim 3, wherein each input channel
- 2 is further operable to amplify the respective color component.
- 1 5. The image-capture circuit of claim 3, wherein each input channel
- 2 is further operable to offset the respective color component.
- 1 6. The image-capture circuit of claim 1, wherein the controller is
- 2 further operable to control the digitizer such that the first input channel processes a
- 3 first color component of the received analog-color signal, the second input channel
- 4 processes a second color component of the received analog-color signal, and
- 5 continuing until each color component is individually processed.
- 1 7. The image-capture circuit of claim 1, wherein the digitizer is
- 2 operable to receive the serial analog color signal in the plurality of channels.

1 8. The image-capture circuit of claim 1, wherein the digitizer is
2 further operable to receive a parallel analog-color signal having color components,
3 each channel of the digitizer being operable to receive a respective color component.

1 9. The image-capture circuit of claim 1, wherein the controller and
2 the digitizer are formed on a single chip.

1 10. An image-capture circuit, comprising:

2 a digitizer operable to receive a serial analog color signal having a
3 predetermined sequence of color components, the digitizer having:

4 a plurality of signal modification channels, one of the channels
5 operable to sequentially modify each of the color components according to a
6 corresponding modification parameter; and

7 an analog-to-digital converter operable to sequentially receive and
8 digitize the modified color components; and

9 a controller coupled to the digitizer and operable to sequentially update
10 the modification parameter to correspond to the color component that the channel is
11 modifying.

1 11. The image-capture circuit of claim 10, wherein the modification
2 parameter includes an amplification.

1 12. The image-capture circuit of claim 10, wherein the modification
2 parameter includes an offset.

1 13. A scanner comprising:

2 a sensor head operable to generate a serial analog-color signal having
3 a predetermined sequence of color components responsive to a scan of an image;

4 an image-capture circuit, including:

5 a digitizer operable to receive the serial analog color signal and having:

6 a plurality of channels each operable to process a respective color
7 component; and

8 an analog-to-digital converter operable to sequentially receive and
9 digitize the color components; and
10 a controller coupled to the digitizer and operable to couple each of the
11 channels to the analog to digital converter in the predetermined sequence.

1 14. The scanner of claim 13, wherein each input channel is
2 coupled to the serial analog-color signal.

1 15. The scanner of claim 13, wherein the controller is further
2 operable to synchronize generation of a first color component by the sensor head
3 with the processing of the first color component by a first channel, generation of a
4 second color component by the sensor head with the processing of the second color
5 by a second channel, and continuing until each color component has been
6 generated and processed by a different channel

1 16. The scanner of claim 13, wherein the color components include
2 red, green, and blue.

1 17. The scanner of claim 13, wherein the scan head is a CIS type.

1 18. A scanner comprising:

2 a sensor head operable to generate a serial analog-color signal having
3 a predetermined sequence of color components responsive to a scan of an image;

4 an image-capture circuit, including:

5 a digitizer operable to receive the serial analog color signal and having:

6 a plurality of signal modification channels, one of the channels
7 operable to sequentially modify each of the color components according to a
8 corresponding modification parameter; and

9 an analog-to-digital converter operable to sequentially receive and
10 digitize the modified color components; and

11 a controller coupled to the digitizer and operable to sequentially update
12 the modification parameter to correspond to the color component that the channel is
13 modifying.

- 1 19. A method for digitizing a serial analog-color signal having a
- 2 predetermined sequence of multiple color components, the method comprising;
- 3 modifying a first one of the components with a first channel and
- 4 digitizing the modified component during a first time period; and
- 5 modifying a second one of the components with a second channel and
- 6 digitizing the modified component during a second time period that is separate from
- 7 the first time period.
- 1 20. A method for digitizing a serial analog-color signal having a
- 2 predetermined sequence of multiple color components, the method comprising;
- 3 setting a modification parameter of a selected one of a plurality of
- 4 channels to first predetermined level, modifying a first one of the color components
- 5 with the channel, and digitizing the modified first component during a first time
- 6 period; and
- 7 setting the modification parameter of the channel to a second
- 8 predetermined level, modifying a second one of the color components with the
- 9 channel, and digitizing the modified second component during a second period of
- 10 time that is separate from the first time.